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DIVORCE, MARRIAGE AND REMARRIAGE PROBABILITIES IN NORTH CAROLINA (With Implications for Fertility)

As custodian of the official records of all marriages and divorces occurring in North Carolina, the Division of Health Services routinely reports county-specific numbers and rates and, during the past year, prepared a descriptive report of the characteristics of persons involved in these proceedings (1). We have not, however, previously computed marriage and divorce probabilities due to the fact that, except for Census years, we lacked population bases specific for marital status.

The situation has now been remedied by virtue of using the geometric growth formula (2) to produce intercensal and postcensal population estimates specific for age, race, sex and marital status. While these estimates are known to be associated with some error (due to accelerated changes in marital behavior), we believe the growth formula minimizes the errors. Still, the reader should keep in mind that divorce probabilities presented here are probably understated while some marriage probabilities would tend to be overstated.

The reader should also be aware that marriage and divorce data are for N.C. occurrences rather than events to N.C. residents. In the case of divorce, the plaintiff (by law) must reside in the State but neither party to marriage is required to be a resident. Thus, probabilities of this paper are subject to bias to the extent that occurrences to out-of-state residents are not offset by out-of-state occurrences to N.C. residents. The extent of this bias is unknown, but the 1975 marriage file shows that both bride and groom were N.C. residents 81% of the time; one or the other was a resident an additional 8% of the time (1).

Trends

According to provisional statistics for the first 9 months of 1976, North Carolina has just experienced its tenth year of uninterrupted increase in the divorce rate and its fifth year of decline in the marriage rate. These trends raise questions as to the changing probabilities for divorce, marriage and remarriage among different age-race-sex groups of the State's population and corresponding effects upon such crucial planning indices as the fertility rate.

Unfortunately, N.C. divorce registrations do not provide age, race and sex detail except for race of the plaintiff. These data are used in Table 1 to compare divorce probabilities in 1975 to those observed in 1965. Entries are the number of divorces per 1,000 women, specific for race of the plaintiff. Results show that while the probability of divorce is still greater for whites than for nonwhites, the nonwhite population appears to have experienced the greater increase in probability over the past decade.

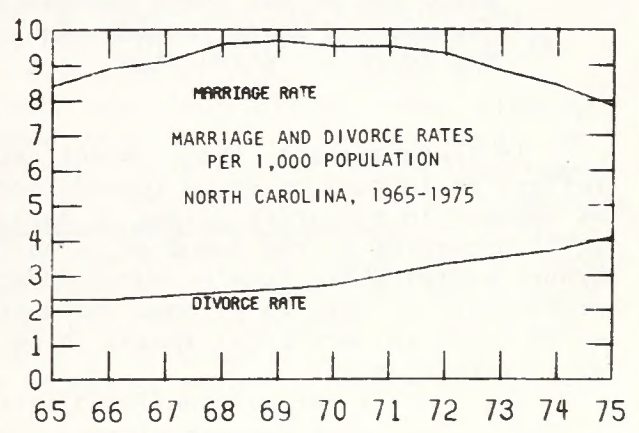


TABLE 1
Divorces per 1,000 Married Females*
by Race of Plaintiff
North Carolina, 1965 and 1975

	<u>1965</u>	<u>1975</u>	<u>Percent Increase</u>
White	10.1	16.5	63.4
Nonwhite	8.4	14.8	76.2
Total	9.8	16.2	65.3

Table 2 shows the State's annual marriage probabilities specific for age, race, sex, and marital status at the beginning of 1975. A comparison of these data with corresponding data for 1965 reveals the following major trends:

- *The probability of a first marriage has declined, by as much as 30 percent for whites of both sexes. These declines are uniformly substantial below age 25 with probabilities remaining stable or declining at ages 25-34 except for white females aged 25-29 whose probability has increased.*
- *Females of both races are experiencing increased first marriage probabilities at ages 35-39 and 50-54. Males of both races have experienced increases at more advanced ages.*
- *The probability of a divorced person's remarriage has increased, by an overall 10%. However, probabilities have generally declined for divorced persons aged 60 and older, and divorced whites of both sexes have experienced declines at ages 20-24.*
- *Except for white males, the probability of a widowed person's remarriage has declined, by as much as 19 percent for nonwhite males. A 12% upturn for widowed white males involved decreases below age 50 but large increases thereafter. Age-specific trends for widowed white females also involved decreases below age 50 and increases thereafter.*

In large measure, then, recent declines in the N.C. marriage rate appear to reflect an increasing trend towards non-marriage or late marriage (above age 35) as opposed to temporary delays in early first marriages (postponed first marriages still occurring in the twenties or early thirties). This is true for all race-sex groups except white females whose reduced probability below age 25 and increased probability at ages 25-29 does indicate some short-term postponement. Single white males in particular appear to be opting for non-marriage or late marriage at an increasing rate.

The State's recently deflated marriage rate also reflects reduced remarriage probabilities among younger widowed persons and older divorced persons, but increased probabilities among older widowed persons (especially whites) and younger divorced persons.

*These probabilities are based on the "modified crude divorce rate" as defined by the United Nations and utilized in the United States (2).

TABLE 2
Marriages per 1,000 People Unmarried at Beginning of Year
North Carolina, 1975

Age	Previous Marital Status, Race and Sex											
	Never Married				Widowed				Divorced			
	White Male	White Female	Nonwhite Male	Nonwhite Female	White Male	White Female	Nonwhite Male	Nonwhite Female	White Male	White Female	Nonwhite Male	Nonwhite Female
15-19	31	75	13	30	0	6	0	7	222	822	24	190
20-24	106	161	72	77	46	24	6	18	279	401	221	184
25-29	164	144	104	68	47	46	49	17	475	313	291	151
30-34	73	48	46	37	57	39	32	15	379	244	301	122
35-39	36	25	36	36	66	48	77	28	220	120	130	83
40-44	20	12	21	21	69	28	39	7	202	113	114	75
45-49	15	6	15	18	64	27	41	12	191	69	88	41
50-54	12	8	8	10	86	20	24	7	93	32	79	24
55-59	8	4	10	9	103	13	33	6	71	22	55	20
60-64	6	3	6	6	87	9	13	4	48	10	65	6
65-69	3	1	7	3	43	4	16	4	27	11	31	6
70+	1	0	2	1	17	1	7	1	19	1	10	0
TOTAL (15 & Over)	62	83	39	42	42	9	18	5	220	147	125	72

NOTE: Marriage rates were converted to probabilities by use of the formula $p = \frac{2r}{2+r}$ (2). Population bases used to compute the rates were derived by applying to age-race-sex-specific counts provided by the Office of State Planning the proportions in each marital status group as determined by geometric extrapolations of the 1960 and 1970 Censuses.

Implications for Fertility

Compared to results of a June 1975 sample survey of the U.S. (3), young North Carolina males are marrying less often than expected with postponed first marriages stockpiling well beyond the usual years for fathering. At the same time, young white females appear to be following the U.S. trend for females in delaying first marriages by several years. Otherwise, females of both races are experiencing reduced first marriage rates throughout the childbearing years except ages 35-39. Widowed females of childbearing age are also remarrying at reduced rates.

These trends, if continued, will undoubtedly mean fewer births. And, although remarriage rates for young divorced persons have risen in N.C., they are likely to be offset by a continuing rise in the divorce rate. In any event, these remarriages are not likely to result in as many births as would the continuation of corresponding first marriages because: (1) the interval between marriages means reduced exposure to the risk of pregnancy, and (2) continued childbearing is often precluded by social and economic conditions associated with the marriage of previously divorced persons (for example, the presence and/or support of children from the previous marriages). It is also likely that declining remarriage rates of divorced whites aged 20-24 will offset any additional births that accrue from increased remarriage among other young divorced persons.

Altogether, these trends in marital behavior tend to suggest that North Carolina's fertility will continue to decline in the next few years, or at the very least, will stabilize should the marriage and divorce rates begin to level off. Certain other factors also would seem deterrents to any short-range reversal in fertility:

- At a time when unmarried women of childbearing age are probably more exposed to the risk of pregnancy than ever before, recent reductions in the State's illegitimate fertility have been demonstrated (4).
- Legalized abortion and public family planning programs offer increasing protection against the unwanted child. That these resources are already having a statistically significant impact on North Carolina's fertility has recently been demonstrated (5).

Current Marriage Probabilities

The most striking thing about the marriage probabilities of Table 2 is the high likelihood for divorced persons to remarry. Specifically, the 1975 marriage probabilities reveal the following:

- For nearly all age-race-sex groups, divorced persons were far more likely to marry than were never married or widowed persons. Exceptions were that, after age 50, widowed white males married more often than divorced white males.
- Except for nonwhite females, widowed persons 35 and older were more likely to marry than were their never married counterparts.
- At most ages, whites were more likely to marry or remarry than were nonwhites, and males were more likely than females. Major exceptions were very young never married and divorced persons; females of both races were more likely to marry.
- Among never married persons, the probability of marriage was greatest at ages 25-29 for males and ages 20-24 for females. For all race-sex groups, chances of a first marriage were less than 1 in 10 after age 30.
- Among widowed persons, peak remarriage probabilities occurred at ages 35-39 except for white males whose peak occurred at ages 55-59. Only for this group (white males aged 55-59) was there even a 1 in 10 chance that widowed persons remarried.
- Among divorced persons, remarriage was most likely below age 35; above age 50, chances ranged from about 1 in 10 (white males aged 50-54) to zero (nonwhite females aged 70 and over).
- Generally, the probability of a first marriage or a divorced person's remarriage declined rapidly as age advanced beyond 25 for females and 30 for males.

Interval Between Marriages

For the first time, the North Carolina marriage data for 1975 include the date that the last previous marriage ended, thus allowing us to compute the interval to remarriage. Since we do not have population bases for computing corresponding probabilities, these data are summarized as percentage distributions and medians in Tables 3-5, to provide bases against which future change may be assessed. These data are derived from the marriage records of 24,137 previously married persons, distributed according to the numbers shown on the bottom line of Table 3.

According to the percentage distributions of Table 3, the most "typical intervals" between marriages are those shown on the next page. More than one-half of the 1975 remarriages occurred during these modal periods.

	Previously Widowed Persons	Previously Divorced Persons
White Males	Under 2 years	Under 2 years
White Females	Under 4 years	Under 2 years
Nonwhite Males	Under 3 years	Under 2 years
Nonwhite Females	Under 2 & 10 or more years	Under 2 years

And, according to the medians of Tables 4 and 5, the following interval characteristics apply to the 1975 remarriages:

Among widowed persons who remarried

- At all ages, the median interval for white males was under 2 years. Older nonwhite males also experienced a relatively short median interval of just over two years. The interval was longer for females—3.6 years for whites compared to 4.6 for nonwhites.
- Especially for white females, advancing age was associated with a longer median interval to remarriage.
- For all interval categories, males were generally older than females and whites older than nonwhites. These differentials reflect to a large extent differential ages at which persons become widowed, e.g., males are usually widowed at an older age than are females.

Among divorced persons who remarried

- At most ages, the interval between marriages was shorter for males and whites than for females and nonwhites.
- Generally, advancing age was associated with a longer interval.
- For both races and all interval categories, males were older than females. This differential probably reflects differential ages at divorce; men tend to be older than their wives.
- Nonwhite males who remarried in less than eight years and nonwhite females who remarried in less than 6 years were older than their white counterparts. These data tend to suggest that nonwhites divorce at older ages than whites; there are no corroborating data.

Conclusion

The primary purpose of this paper was to provide baseline marriage and divorce probabilities against which future change may be assessed. In this vein, summary data regarding intervals to remarriage are also given.

As a direct by-product, the marriage and divorce data are used to assess the short-range prospects for North Carolina's declining fertility. No immediate reversal is anticipated.

TABLE 3
Percentage Distributions of Remarried Persons,
by Number of Years Since Last Marriage Ended
North Carolina, 1975

Years Since Last Marriage Ended	Previously Widowed Persons				Previously Divorced Persons			
	White Males	White Females	Nonwhite Males	Nonwhite Females	White Males	White Females	Nonwhite Males	Nonwhite Females
Under 1	31.0	12.7	20.4	18.6	43.3	40.6	42.8	39.3
1	25.7	15.8	20.1	10.5	14.6	15.5	13.1	15.4
2	14.1	14.3	10.2	9.6	9.0	9.4	8.7	7.5
3	8.5	10.6	9.9	6.0	5.8	6.5	5.4	6.6
4	4.9	9.4	4.8	7.2	3.9	4.8	4.2	5.3
5	3.3	6.8	5.7	7.8	2.6	2.9	3.3	3.0
6	1.6	5.6	2.4	3.0	1.8	1.9	1.8	2.1
7	1.4	3.6	3.0	3.6	1.2	1.3	2.3	2.0
8	1.3	3.6	3.6	4.2	0.7	1.0	0.7	1.2
9	1.2	2.7	2.1	2.7	0.7	0.6	0.6	1.2
10-14	2.7	7.3	7.2	10.2	1.9	1.9	3.7	4.6
15 or more	2.5	5.4	9.0	15.0	1.5	1.3	3.4	3.6
Unknown	2.0	2.3	1.5	1.8	13.0	12.3	10.1	8.2
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. of Persons	1,478	1,850	333	334	9,170	8,780	1,154	1,038

TABLE 4
Median Interval Between End of Last Marriage
and Remarriage, by Age at Remarriage
North Carolina, 1975

Age at Remarriage	Previously Widowed Persons				Previously Divorced Persons			
	White Males	White Females	Nonwhite Males	Nonwhite Females	White Males	White Females	Nonwhite Males	Nonwhite Females
15-19	-	0.8	-	0.5	0.7	0.6	0.5	0.6
20-24	1.4	1.7	3.0	2.0	0.8	0.8	0.7	0.9
25-29	1.7	2.1	2.0	4.0	1.0	1.1	0.9	1.2
30-34	1.8	2.3	2.5	3.8	1.1	1.5	1.4	1.6
35-39	1.6	2.7	5.2	5.5	1.3	1.7	1.4	1.8
40-44	1.8	2.8	4.0	4.5	1.0	2.3	2.0	2.4
45-49	1.8	3.4	3.6	5.1	1.3	2.5	1.2	3.0
50-54	1.6	3.8	3.5	5.0	1.7	4.3	2.0	3.7
55-59	1.7	4.6	2.8	5.0	1.7	3.6	2.2	6.5
60-64	1.6	5.4	2.0	6.5	5.1	8.8	0.9	1.5
65-69	1.8	4.8	2.3	8.2	1.5	7.8	3.0	8.0
70 & Over	1.8	5.1	2.3	7.5	2.0	0.5	0.5	-
TOTAL	1.7	3.6	2.9	4.6	1.0	1.2	1.2	1.4



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TABLE 5
Median Age at Remarriage by Interval Between Marriages
North Carolina, 1975

Years Since Last Marriage Ended	Previously Widowed Persons				Previously Divorced Persons			
	White Males	White Females	Nonwhite Males	Nonwhite Females	White Males	White Females	Nonwhite Males	Nonwhite Females
Under 1	59.0	46.1	59.3	49.6	30.9	27.4	33.7	29.4
1	59.8	45.2	55.3	39.5	30.6	28.4	33.0	29.6
2	60.0	48.1	57.5	48.3	31.5	29.5	34.4	29.3
3	59.3	52.0	54.2	40.0	32.4	30.0	33.9	31.8
4	58.0	50.8	55.0	45.0	32.4	31.7	35.5	30.9
5	59.7	53.9	51.3	42.5	34.6	32.1	38.1	34.1
6	61.3	54.8	55.0	45.0	36.0	35.4	38.5	34.4
7	56.0	52.1	43.3	52.5	37.6	36.3	42.5	34.6
8	59.5	56.3	56.7	57.5	39.3	37.5	37.5	35.0
9	63.5	55.8	56.3	36.3	43.2	40.8	47.5	36.7
10-14	60.0	57.6	53.8	52.5	42.7	42.1	43.4	41.1
15 or More	60.8	59.1	57.5	56.7	52.0	50.0	51.3	49.0
TOTAL	59.5	51.4	56.6	49.4	31.9	28.8	34.8	31.1

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